

### **REMARKS**

The claims have not been amended. Claims 1-2 and 6-40 are currently pending in the application, of which claims 1, 38, 39, and 40 are independent claims. Applicants appreciate the indication that claims 6-31 and 33-37 contain allowable subject matter. Applicants appreciate the indication that claims 38-40 are allowed.

In view of the following Remarks, Applicants respectfully request reconsideration and timely withdrawal of the pending rejections for the reasons discussed below.

#### ***Interview Summary***

Applicants thank the Examiner for the courtesies extended during the interview of November 17, 2006. During the interview, Applicants' representative proposed draft arguments arguing that the Examiner fails to establish a prima facie case of obviousness in rejecting claims 1, 2, and 32. The Examiner found such arguments persuasive, and requested Applicants to submit the arguments in writing. Accordingly, the Examiner indicated he would issue a second non-final Office Action.

#### ***Rejections Under 35 U.S.C. § 103***

Claims 1, 2 and 32 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent Application Publication No. 2003/0183854 applied for by Kato, *et al.* ("Kato") in view of Japanese Patent Application Publication No. 04-279064 applied for by Ueda ("Ueda '064") and further in view of Japanese Patent Application Publication No. 5-190853 applied for by Ueda ("Ueda '853"). Applicants respectfully traverse this rejection for at least the following reasons.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the reference or references, when combined, must disclose or suggest all of the claim limitations. The motivation to modify the prior art and the reasonable expectation of success must both be found in the prior art and not based upon a patent applicant's disclosure. See *in re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicants respectfully submit that the Office Action fails to establish a *prima facie* case of obviousness. Specifically, claim 1 recites, *inter alia*:

A flat panel display, comprising:

at least two or more thin film transistors including semiconductor active layers having simultaneously formed channel regions,

wherein a thickness of the channel regions of the thin film transistors are different from each other,

wherein the semiconductor active layer is formed using polycrystalline silicon, and a size of crystal grain on the channel region, which has a relatively thinner thickness, of the switching thin film transistor is larger than a size of the crystal grain on the channel region of the other thin film transistor...

Applicants respectfully submit that Kato fails to teach or suggest at least such features. Specifically, the Office Action recognizes that Kato fails "to disclose the two different channel thicknesses and the required physical makeup of polysilicon layer of two TFTs". Ueda '064 and Ueda' 853 fail to cure the deficiencies of Kato.

Kato discloses an inverter cell structure including a p-channel and a n-channel TFT (See page 12, paragraph [0187]). Whereas, Ueda '853 discloses a display device including a channel layer 2c of a TFT in the display part, i.e. in a pixel, whereby the crystal grain size in the channel layer 2c is smaller than the crystal grain size in the channel layers 2a and 2b of TFTs in the driver circuit for driving (See Abstract). Ueda '853 further discloses that channel layers 2a

and 2b are polycrystalline layers obtained by the heat treatment of amorphous silicon (See Abstract and paragraph [0012]). Subsequently, after depositing SiO<sub>2</sub> and forming an insulating layer 3, polycrystalline silicon is deposited across the substrate and etched to form channel layer 2c of the TFT in the display part (See Abstract, See paragraphs [0013] – [0014]). Accordingly, one of ordinary skill in the art would not have combined the teachings of Kato and Ueda '853 because the TFTs of Ueda '853 are formed in different regions of the display device and would not be TFTs which would be formed as a p-channel and a n-channel TFT in an inverter cell structure.

Further, assuming *arguendo* that the references may be combined and a reasonable expectation of success exists, the combined references do not disclose or suggest all of the claim limitations of claim 1. Specifically, Kato in view of Ueda '064 and Ueda '853 fail to teach "at least two or more thin film transistors including semiconductor layers having simultaneously formed channel regions". Rather, as previously noted, Kato teaches an inverter cell including a p-channel TFT and a n-channel TFT. Hence, Kato's TFTs are not simultaneously formed channel regions since different doping processes are performed to form the respective n-channel TFT and the p-channel TFT.

Further, Kato in view of Ueda '064 and Ueda '853 fail to teach "a size of crystal grains on the channel region...of the switching thin film transistor is larger than a size of the crystal grain on the channel region of the other thin film transistor". None of the cited references specifically state that the size of the crystal grain on the channel of the switching TFT is larger than a size of the crystal grain on the channel region of the other TFT, as stated in claim 1. Accordingly, Kato in view of Ueda '064 and Ueda '853 fails to teach or suggest each and every claimed feature of claim 1.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claim 1. Claims 2 and 32 depend from claim 1 and are allowable at least for this

reason. Since none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed invention, Applicants respectfully submit that independent claim 1, and all the claims that depend therefrom, are allowable.

***Allowable Subject Matter***

Applicants appreciate the indication that claims 6-31 and 33-37 contain allowable subject matter. Claims 6-31 and 33-37 have not been amended because Applicants respectfully submit that claims 6-31 and 33-37 depend from an allowable base claim and are allowable at least for this reason.

Accordingly, Applicants submit that claims 6-31 and 33-37 are in condition for allowance.

Applicants appreciate the indication that claims 38-40 are allowed.

**CONCLUSION**

Applicants believe that a full and complete response has been made to the pending Office Action and respectfully submit that all of the grounds for rejection have been overcome or rendered moot. Accordingly, Applicants respectfully submit that all pending claims are allowable and that the application is in condition for allowance.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative at the number below to expedite prosecution.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,

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Date: November 22, 2006

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